

## **IN THE CLAIMS**

**1. (currently amended)** A burst signal detection circuit comprising:

a DC variation removing circuit detecting the bottom level of an input signal when an input signal level is falling, and removing the DC level variation of the input signal by differentially amplifying the difference between the input signal level and detected bottom level of the input signal; and

an amplitude identifying circuit detecting the presence or absence of a burst signal in said input signal based on the output signal from the DC variation removing circuit;

said ~~amplifying~~ amplitude identifying circuit including:

an amplitude detection circuit detecting the maximum amplitude of the output signal of said DC variation removing circuit;

a threshold level control circuit controlling a threshold; and

a comparator circuit comparing the output level of said amplitude detection circuit with said threshold level and outputting a detection signal indicating the presence or absence of the burst signal.

**2. (previously presented)** The burst signal detection circuit according to claim 1, wherein said DC variation removing circuit includes:

a bottom detection circuit detecting the bottom level of the input signal when the input signal level is falling, and a differential amplifier differentially amplifying the difference between the input signal and the output signal from said bottom detection circuit.

**3. – 7. (canceled)**

**8. (previously presented)** The burst signal detection circuit according to claim 1, wherein said threshold level control circuit includes a reference voltage circuit changing said threshold level with the supply voltage change, said reference voltage circuit being so configured as to compensate for the variation of the gain due to the supply voltage change.

**9. (previously presented)** The burst signal detection circuit according to claim 1, further comprising a photodiode receiving an optical signal and a preamplifier converting the current signal from said photodiode into a voltage signal, wherein the arrival of a burst signal is detected from the output signal of said preamplifier.

**10. – 27. (canceled)**

**28. (previously presented)** A burst signal detection circuit comprising:

a DC variation removing circuit; a signal amplifier detecting the bottom level of an input signal when the input signal level is falling, removing the DC level variation of the input signal based on the detected bottom level, and for amplifying said input signal; and

an amplitude identifying circuit detecting the presence or absence of a burst signal in said input signal based on the output signal from the DC variation removing signal amplifier;

said amplitude identifying circuit including:

an amplitude detection circuit detecting the maximum amplitude of the output signal of said DC variation removing amplifier;

a threshold level control circuit controlling the threshold level; and

a comparator circuit comparing the output level of said amplitude detection circuit with said threshold level and outputting a detection signal indicating the presence or absence of the burst signal.

**29. – 37. (canceled)**

**38. (previously presented)** The burst signal detection circuit according to claim 28, wherein said threshold level control circuit includes a reference voltage circuit changing said threshold level with the supply voltage change, said reference voltage circuit being so configured as to compensate for the variation of the gain due to the supply voltage change.

**39. (previously presented)** The burst signal detection circuit according to claim 28, further comprising a photodiode receiving an optical signal and a preamplifier for converting the current signal from said photodiode into a voltage signal, wherein the arrival of a burst signal is detected from the output signal of said preamplifier.

**40. – 78. (canceled)**